

# THE WEATHER ELEMENTS

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## PRESSURE AND WINDS

Aside from an unusually long rainy period over the middle portions of the country from the Great Plains eastward to the Atlantic coast during most of the second and the first few days of the third decade and a severe tropical storm that passed inland from the Gulf of Mexico over southern Louisiana on the night of the 25th-26th, weather conditions for the month were not materially different from those usually expected during the last month of summer.

Cyclones were mainly weak and frequently indefinite, and anticyclones of importance were confined mainly to the more northern districts and exerted no marked influence on the weather, though the frequent succession of moderate pressure changes brought agreeable variations in temperature over most parts of the country.

At the beginning the remnant of the severe tropical storm that had entered the United States near northern Florida on the morning of July 28 and had moved northwestward to the vicinity of Memphis, Tenn., and then recurved to the northeast was central over Indiana. Precipitation had occurred during the preceding 24 hours over much of the territory between the Mississippi River and Appalachian Mountains, the amounts being heavy in portions of the Ohio Valley and near-by areas. This storm moved to the lower St. Lawrence Valley during the following two days and brought additional precipitation over the area previously referred to as well as to much of the country to eastward. Only scattered precipitation, mostly from thunderstorms, occurred during the remainder of the first decade, save on the 2d, when heavy rains fell over a small area in extreme southwestern Arizona, particularly in the vicinity of Yuma, where much damage resulted to crops and irrigation equipment. Further damage resulted to crops later, due to impairment of irrigation facilities and inability to secure necessary water.

Near the beginning of the second decade low pressure and rainy conditions became established in the middle Mississippi Valley and adjacent areas and with local variations persisted in that region and generally to the eastward for many days; over large areas from eastern Nebraska, Kansas, and Oklahoma, to the Atlantic coast, precipitation occurred almost daily until early in the last decade. While rainfall during this period was mainly not heavy, still in certain localities, particularly in the Ohio and middle Mississippi Valleys, Great Lakes region, and Atlantic coast districts, it was heavy and locally damaging.

Unusually heavy precipitation occurred over extreme southern Florida on the 18th, more than 8 inches falling at Key West within less than three hours, the heaviest fall in so short a period ever known there.

General and frequently heavy rains occurred over much of the country from the Mississippi Valley eastward near the middle of the last decade, and heavy precipitation was, as usual, associated with the severe tropical hurricane as it approached the middle Gulf coast on the 25th and 26th, 24-hour falls ranging from 5 to 15 inches being reported at points near the storm center. This storm was attended by high winds near the coast, with much damage to property and some loss of life, a full description of which will be found elsewhere in this issue.

Except as noted above, the last week of the month was mainly without important cyclonic activity and little precipitation occurred.

The pressure distribution was not greatly different from that usually expected in August save that the monthly averages were slightly higher than usual over most of the United States and Canada. A small area in the far Northwest had averages slightly below normal, as did portions of the central valleys where precipitation was so persistent near the middle period of the month.

The average pressure was nearly everywhere higher than in July preceding. This is usually to be expected over the northern half of the country from the Rocky Mountains eastward, but in the South and far West average August pressures are usually lower than those for July.

The gradient between the areas of highest and lowest average pressures were not sufficient to greatly influence the prevailing wind directions, but these were mainly from southerly points except along the Pacific coast where they were chiefly from the Northwest.

Wind and hail storms were less frequent and damaging than in July, although high winds attended the tropical hurricane in the middle Gulf section.

Full details of the more important storms of the month appear in the table at the end of this section.

## TEMPERATURE

The unusual warmth that has been a prominent feature of the weather over the far West for many months continued during August, but to a less extent than in most preceding months, and gave some indications of a final break-up. At the same time the northeastern districts which have been as persistently cool showed evidences of a change to warmer, though coolness was still maintained in the more northeastern sections.

As a rule there were frequent changes in temperature so that uncomfortable warmth or coolness did not long persist, and while the month was mainly warmer than normal the excess was due rather to moderately warm nights than to excessively warm days, a condition which resulted in many instances from long periods of cloudy, rainy weather.

The averages by weeks were usually moderately close to the normal, save for that ending the 31st, which was distinctly warm over a large area composing the central-northern districts and correspondingly cool over a comparatively small area immediately to the southward.

The average temperatures were above normal over the greater part of the country, though only in a few instances were the departures of importance. In parts of the far Northwest it was the tenth consecutive month with average temperature above normal, and in portions of eastern Washington the month completed the warmest summer in more than 50 years.

Over most of Montana the month was slightly cooler than normal for the first time during the present year. On the other hand, small areas in the Lower Lake region had the first monthly averages above normal since January. The extreme northeastern districts continued cool, as in all months so far save January.

The warmer periods ranged from the 1st to 31st, depending upon location, though they occurred mainly during the first decade from the middle and southern Plains eastward to the Mississippi River and in the Northeast, near the beginning of the second decade over the Ohio Valley and to eastward, and about the middle of the

last decade from the Great Lakes westward and in the far Southwest.

Maximum temperatures reached 100° or slightly more at some time during the month in nearly all the States, the highest observed, 124°, occurring in California, with 118° in Arizona and 110° or higher in most of the other States from the Great Plains westward. Locally in Nebraska the maximum temperatures on the 25th were the highest ever observed in August.

The lowest temperatures were observed mainly toward the end of the month, though in Florida they occurred on the 4th and in the west Gulf States mostly on the 8th or 9th.

No freezing temperatures occurred over the important crop-growing districts, but readings below 20° were observed at a few high stations in Colorado and New Mexico, and most of the other mountain States had readings below freezing at elevated exposures.

#### PRECIPITATION

Over the more important agricultural districts the precipitation was mainly sufficient for crop needs, though portions of Kansas and near-by areas of other States suffered from drought during the first decade, and similar conditions existed in the far Northwest.

The month as a whole was dry over most of South Carolina, and in portions of eastern Georgia, northern Florida, southern Texas, and generally over the Southwest.

In the Ohio and middle Mississippi Valleys, Lower Lakes, and Middle Atlantic States precipitation occurred frequently, was generally well above the normal, and locally excessive; some stations reporting the monthly falls as the greatest ever measured in August. There were large excesses over southern Florida and along and near the Gulf coast from western Florida to Louisiana, the latter due mainly to the heavy rains attending the tropical storm near the end of the month.

The general absence of rains during the early part of the month favored the continuation of severe forest fires in the far Northwestern States, and these were largely unchecked until after the middle, when more or less important rains fell over wide areas.

#### RELATIVE HUMIDITY

Over practically all portions, from the Missouri and Mississippi Valleys eastward to the Atlantic coast, the relative humidity was mainly well above the normal, though the effect of drought in portions of the Southeast is well outlined by a corresponding area showing humidity below or only slightly above normal.

In the far West relative humidity was mainly above normal over northern districts, due largely to rather moist conditions existing in the latter part of the month. In the Southwest humidity was less than normal throughout the month, though the deficiencies were not large.

#### SEVERE LOCAL HAIL AND WIND STORMS, AUGUST, 1926

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A more complete statement will appear in the Annual Report of the Chief of Bureau.]

Place	Date	Time	Width of path	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
			Yards <sup>1</sup>					
Evansville, Ind. (12 miles southwest of).	3	P. m.		1		Electrical	No property damage reported; one person injured.	Official, U. S. Weather Bureau.
Purdum, Nebr. (8 miles northwest of).	3	6-7 p. m.			\$2,500	Hail	Heavy damage over 140 acre field; other fields slightly injured.	Do.
Alta, Wyo.	3					Electrical	Nine cows and 57 sheep killed.	Do.
Nogales, Ariz. (7 miles north of).	4	P. m.			600	Thunderstorm and hail	Slight crop damage and 57 goats killed.	Do.
Henry and adjacent counties, Ind.	4-6			3		Thunderstorms and winds	Crops, buildings, and wires damaged.	Do.
Ludington, Mich. (10 miles east of).	5	4-5 a. m.				Thunderstorm	One house burned and another damaged.	Do.
Baginaw, Detroit, and Flint, Mich.	5	A. m.				Electrical	Much damage to wire systems and farm buildings; traffic impeded.	Times (Detroit, Mich.); Grand Rapids Press (Mich.).
Frankfort, Ind. (near)	5					Heavy hail	Moderate crop damage reported.	Official, U. S. Weather Bureau.
Mahoning County, Ohio	5					do.	Character of damage not reported.	Do.
Mayville, N. Dak.	5					Severe hail and wind.	Thirty thousand bushels of small grains destroyed; windows broken.	Do.
Chacon, N. Mex. (near)	6	2-4 p. m.				Severe hail	Crops damaged.	Do.
Lenawee County, Mich.	6	5-6 p. m.			100,000	do.	Thousands of acres of crops destroyed, fruit trees injured; wires blown down; many chickens and ducks killed.	Do.
Erie County, N. Y., northward to Adirondack Mountains.	6					Thunderstorms, wind and rain	Buildings, telephone and power lines damaged; crops injured; some hail reported at Oswego.	Do.
Fulton and Henry Counties, Ohio.	6					Destructive hail	Character of damage not reported.	Do.
Petersburg, Ill.	6					Wind and hail	Several buildings damaged.	Do.
Salem, Ill.	6	3 p. m.	440-1,760		17,000	Hail	Fruit and other crops damaged over path 6 miles long.	Do.
Tipppecanoe City, Ohio (2 miles south of).	6				5,000	Electrical	Barn destroyed.	Do.
Ville Platte, La.	7	2 p. m.	440		2,750	Wind	Timber, crops, and buildings damaged.	Do.
Pleasantview District, Oneida County, Idaho.	8					Hail	Many acres of wheat destroyed.	Tribune (Pocatello, Idaho).
Cherry, Boyd, Holt, Knox, and Antelope Counties, Nebr.	9	5-7 p. m.	30 mi.		150,000	Wind, rain, and hail.	Many farm buildings wrecked; crops injured; trees uprooted. Path 120 miles long.	Official U. S. Weather Bureau.
Rawlins County, Kans. (northeast part of).	9	8 p. m.			2,500	Tornado	Damage chiefly to barns and outbuildings.	Do.
Rawlins County, Kans.	9	8-10 p. m.				Hail	Minor damage as most staple crops had matured. Path several miles wide.	Do.
Watson, Utah	9				2,000	do.	Trees and shrubbery stripped; windows broken and roofs pierced.	Do.
Padroni, Colo. (near)	10	P. m.		1		Tornado	Two houses demolished, other buildings, several autos, and farm machinery destroyed or badly damaged. Three persons injured.	Daily Sentinel (Grand Junction, Colo.).

<sup>1</sup> "Mi." signifies miles instead of yards.